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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/062,465

02/05/2002

Dong-Gyu Kim

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2819

7590

10/20/2004

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EXAMINER

QI, ZHI QIANG

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/062,465

**Applicant(s)**

KIM, DONG-GYU

**Examiner**

Mike Qi

**Art Unit**

2871



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 14-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 13 is/are rejected.
- 7) ☒ Claim(s) 4-12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Specification*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: - - liquid crystal display having particular terminals arrangement for securing connection to driving circuit - -.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 2 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Applicant admitted prior art (AAPA).

Claim 1, AAPA discloses (paragraph 0010 - 0028 of the specification; Figs.1-3) that an LCD comprising:

- a substrate (10);
- a pixel array (the reflective electrodes 85 functions as pixel electrodes that constitutes pixel array) formed on a display region (50) of the substrate in a matrix configuration (the pixel array is a matrix configuration);

- a plurality of first terminal (any terminal can be a first terminal such as the gate terminal 20) formed at a non-display region (70) of the substrate, and the gate terminal (20) having a contact region (any region functions as a contact would be a contact region, because the contact region is not defined in a specific definition as which layer contacts which layer, so that any region having a contact function would be a contact region, such as the gate terminal 20 contacts the gate pad 86, and there must have a contact region), and the electrical signal being applied to the pixel array must have gate lines and the data lines that are a plurality of column lines and row lines in the pixel array;
- a protective layer (75) having contact hole (81) formed corresponding to the contact region (such as the gate pad 86 contacts the gate terminal 20) of each of the gate terminals (20) (first terminal), and covering the pixel array and the gate terminals (20) (first terminal);
- a plurality of first pads (any pads can be a first pads such as the gate pads 86) formed on the protective layer (75) overlapping each of the first terminal such as the gate terminals (20),
- according to the Figs.1C, 2A and 2B, the gate pads (86) (first pads) connected to each of the gate terminals (20) (first terminals) through the contact holes (81); and according to the conventional pad structure, such as pad contact hole (102) having a smaller surface area than that of a lower terminal (100), and pad (104) having a wider area than the surface area of the

terminal (100), therefore, the pad having a surface area larger than that of the contact hole (see paragraph 0021, and that is a conventional pad structure).

Therefore, the AAPA meets the imitations as claimed in the claim 1.

Claim 2, AAPA discloses (paragraph 0022) that the protective layer is thickly formed in a thickness of about 5  $\mu\text{m}$ .

Claim 13, AAPA discloses (paragraph 0018) that using connecting device such as a COG, a COF or an FPC to connect the LCD through the pad (86) to apply a driving signal from outside. So that the first pad such as the gate pads (86) are connected to the LCD through the pad area (except the contact region contacting the pad and the terminal) to the terminals of the connecting device (such as FPC) from outside.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA as applied to claims 1, 2 and 13 above, and further in view of US 4,295,711 (Tanaka et al).

Claim 3, lacking limitation is such that the first terminals are aligned in a zigzag fashion of two rows.

However, Tanaka discloses (col.3, lines 3-11; Figs.5a, 7a) that the electrode terminals are disposed in a zigzag manner (the zigzag fashion of two rows) that

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provides a relatively large terminal connecting area at the edges of the leads thus preventing adjacent electrodes from being short-circuited.

Therefore, it would have been obvious to those skilled in the art at the time the invention was made to align the electrode terminals in a zigzag fashion as claimed in claim 3 for prevention adjacent electrodes from being short-circuited.

***Allowable Subject Matter***

6. Claims 4-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record neither discloses nor teaches that a liquid crystal display device comprising various elements as claimed, more specifically, as the following:

each of first inner terminals arranged along an inside portion of a first row among the first terminals has a first contact region at an inner portion thereof, and each of first outer terminals arranged along an outside portion of a second row among the first terminals has a second contact region at an outer portion thereof as shown in Fig.5 [claim 4].

Claims 5-12 are dependent on the claim 4.

The closest reference such as US 5,352,318 (Takabayashi et al) disclose a method of connecting a driver semiconductor device onto a liquid crystal display device,

but none of references in the prior art found that the liquid crystal display device having the inner terminal and the outer terminal as claimed in the claim 4.

### ***Response to Arguments***

8. Applicant's arguments filed on Spe.8, 2004 have been fully considered but they are not persuasive.

#### Applicant's arguments are as follows:

1) None of the prior art of record discloses or suggests all the features of the amended claim 1.

#### Examiner's responses to Applicant's arguments are as follows:

1) The amended limitations of the claim 1 are not distinguished from the prior art disclosed in the AAPA as set forth above.

### ***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

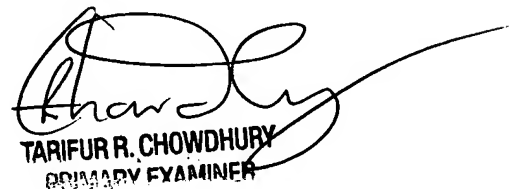
10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mike Qi whose telephone number is (571) 272-2299. The examiner can normally be reached on M-T 8:00 am-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mike Qi  
October 14, 2004



TARIFUR R. CHOWDHURY  
PRIMARY EXAMINER